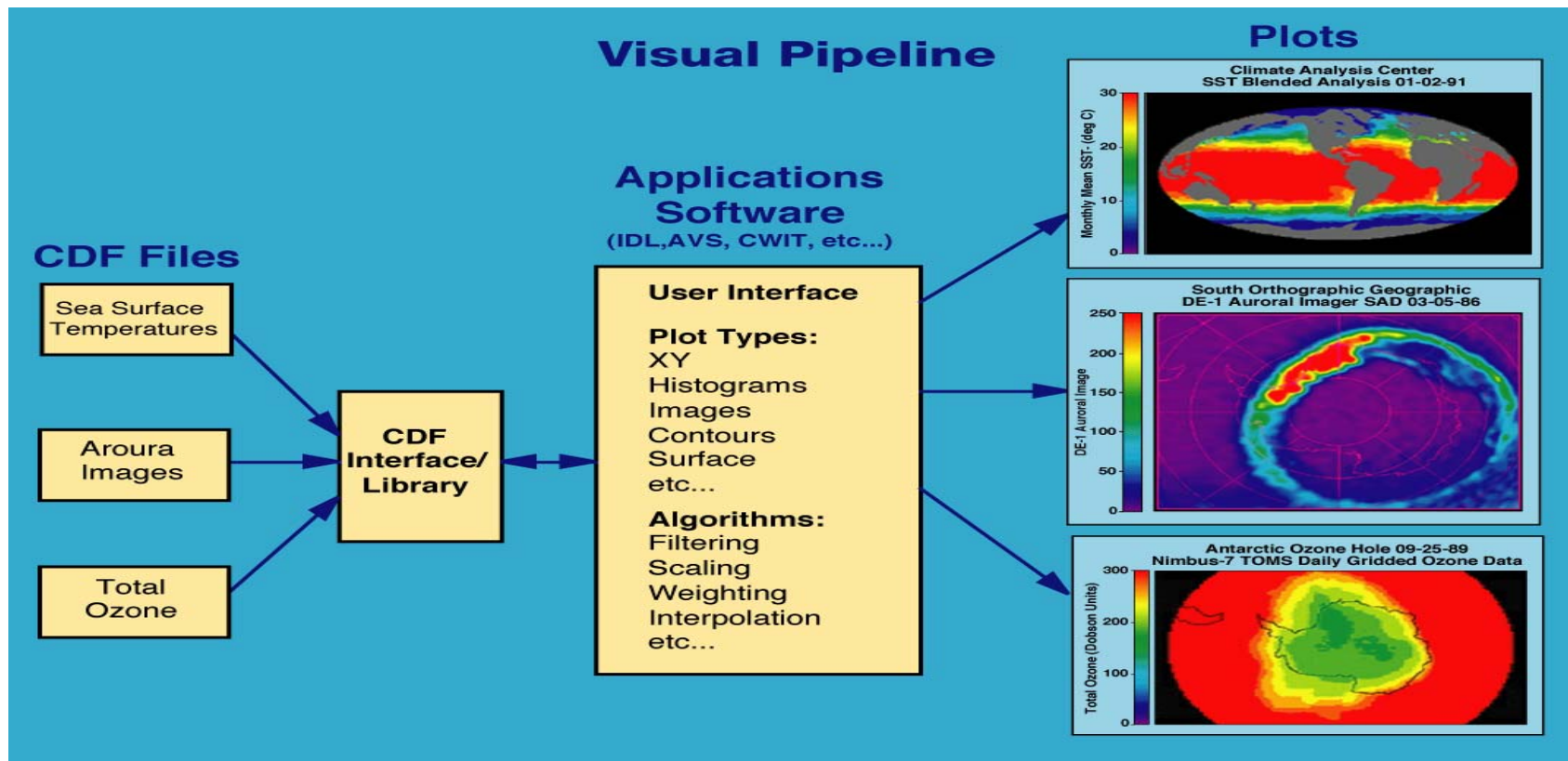


# Science Data Systems Branch



The National Space Science Data Center's (NSSDC) Common Data Format (CDF) is a self-describing data abstraction for the storage and manipulation of multi-dimensional data in a discipline-independent fashion. The development of CDF arose out of the recognition by the NSSDC for a class of data models that is matched to the structure of scientific data and the applications (i.e. statistical and numerical methods, visualization, and management) they serve. When one first hears the term "Common Data Format," one intuitively thinks of data formats in the traditional (i.e. messy/convoluted storage of data on disc or tape) sense of the word. Although CDF has its own internal self describing format, it consists of more than just a data format. CDF is a scientific data management package (known as the "CDF Library") which allows programmers and application developers to manage and manipulate scalar, vector, and multi-dimensional data arrays. The irony of the term "Format" is that the actual data format which CDF utilizes is completely transparent to the user and accessible through a consistent set of interface (known as the "CDF Interface") routines. Therefore, programmers are not burdened with performing low level I/O's to physically format and unformat the data files. This is all done for them.

# GSFC / USC-ISI Collaboration: FMRS Task Support

## FMRS Demonstration Testbed

### FMRS Testbed Functions

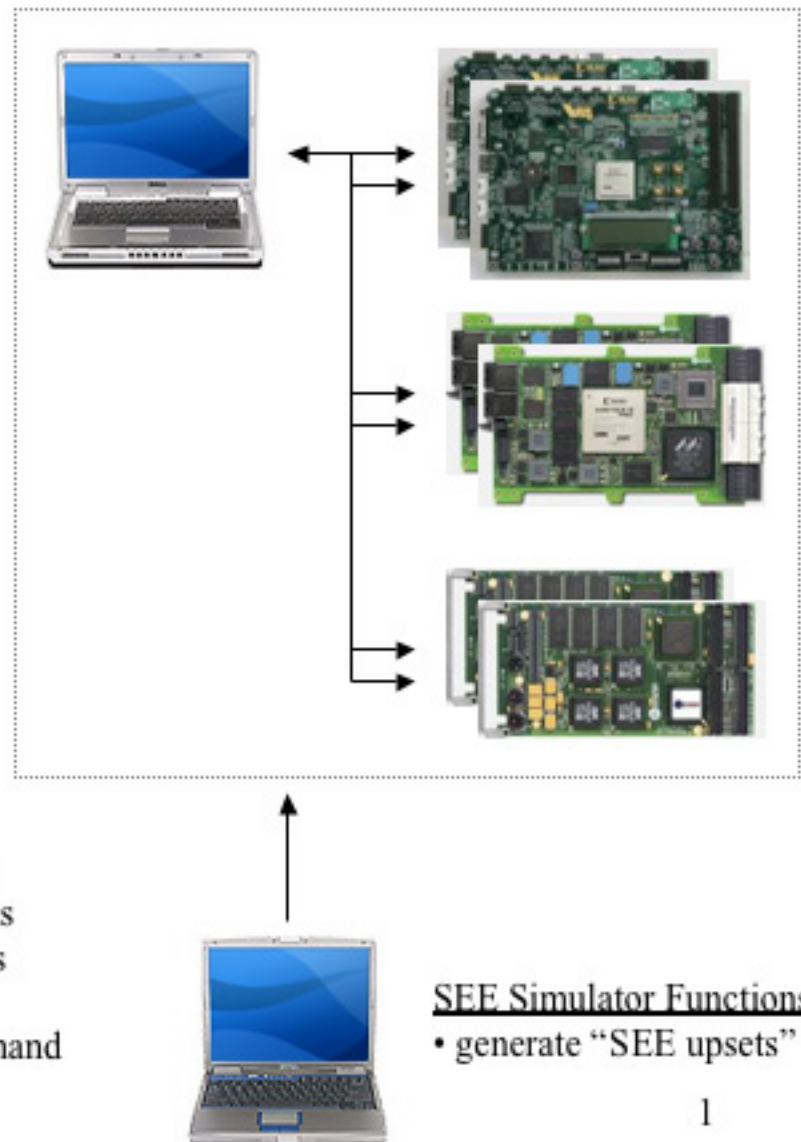
- request sensor data
- send drive/control commands
- execute mission scenarios
  - navigation algorithms
  - exploration task execution
  - health/safety monitoring
  - telemetry packaging
- provide “user” command/telemetry interface
- push button “emergency stop” command
- command out of “safe-hold” mode
- MITIGATE ALL “SEE UPSETS”

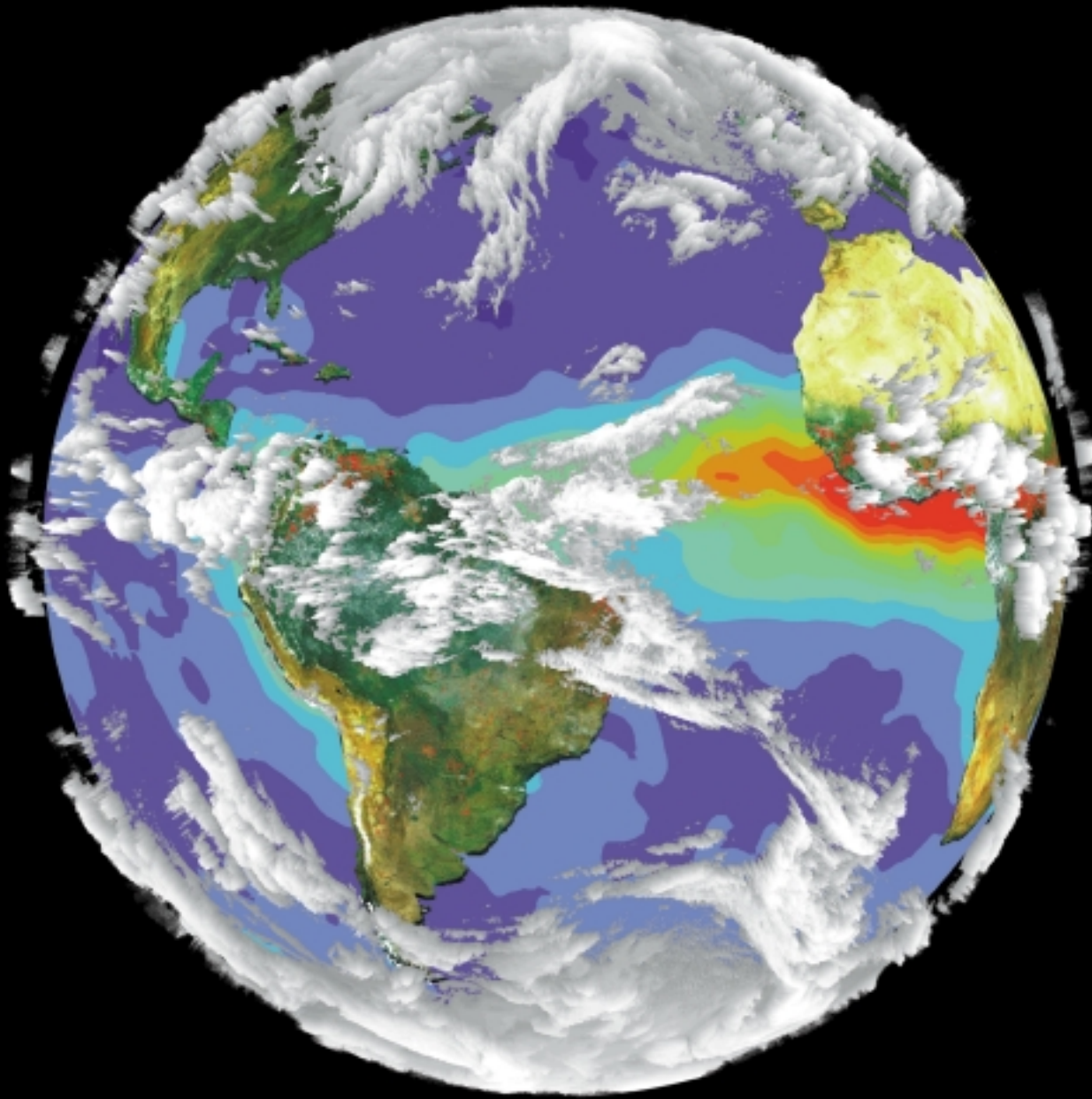
Wireless Ethernet



### Robot Functions

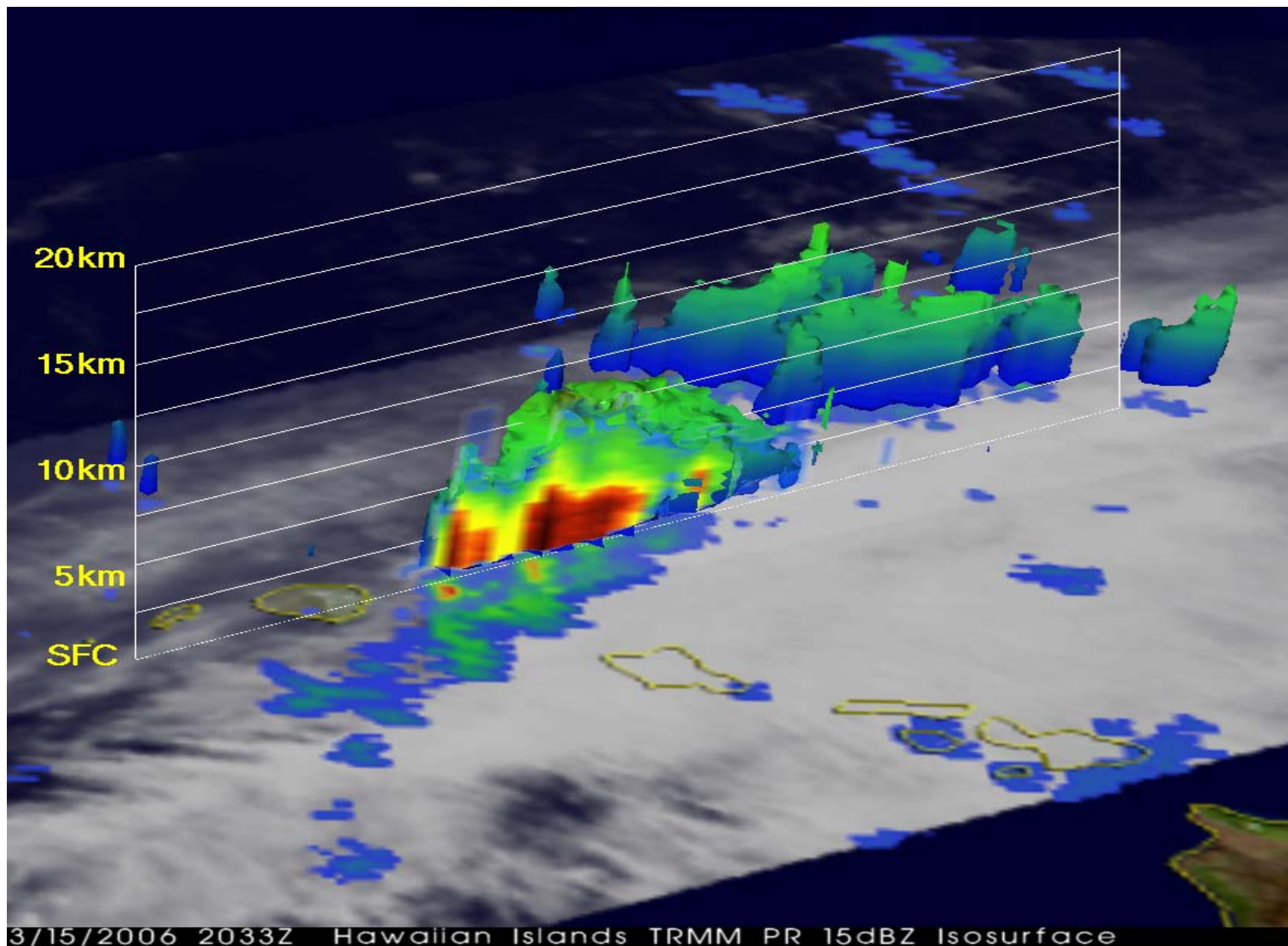
- collect and package sensor data
- execute drive/control commands
- self-monitor health/safety status
- self-initiate “safe-hold” mode
- accept “emergency stop” command





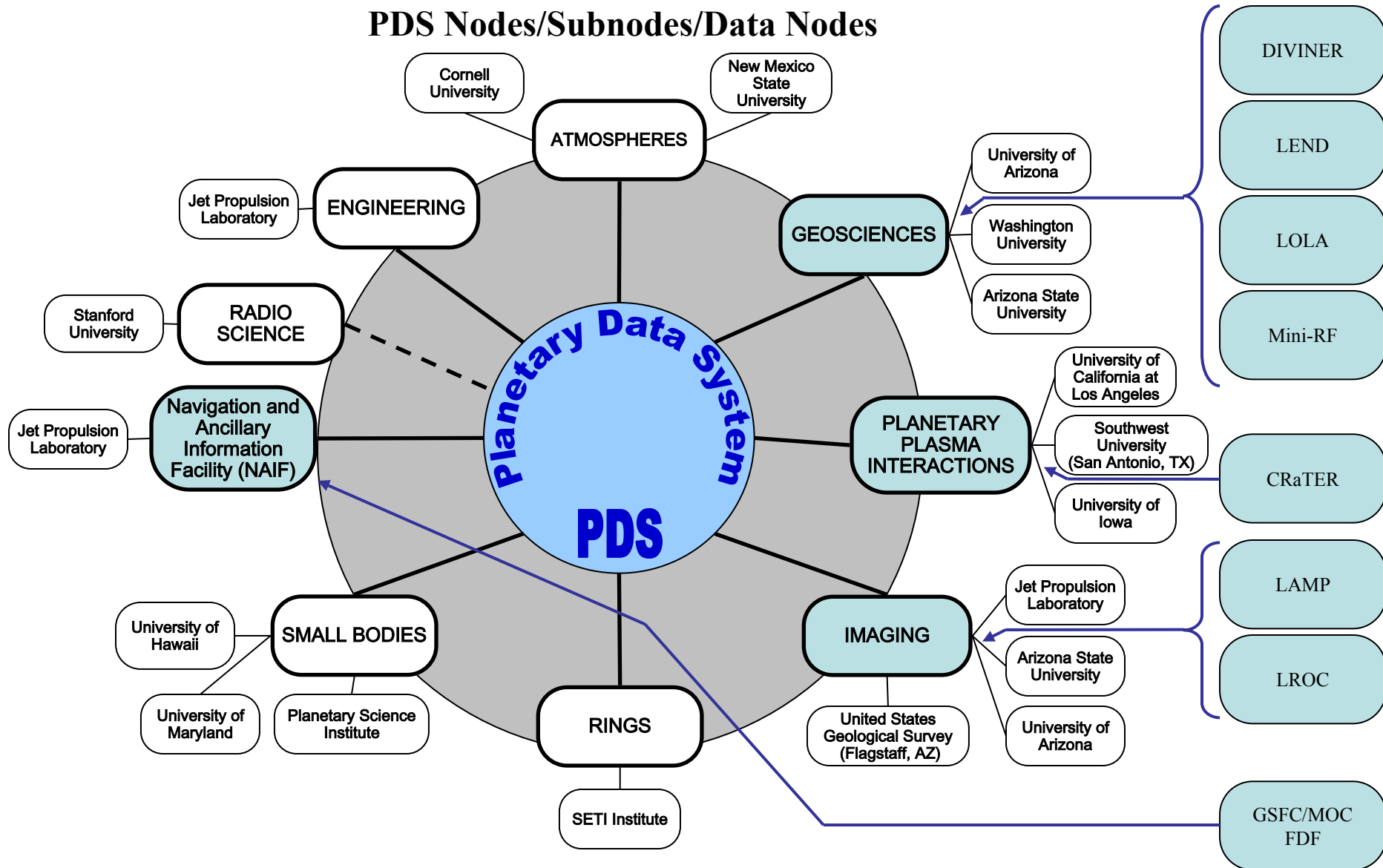
How do the  
Earth's  
land, water,  
air, and life  
interact to  
produce our  
fragile  
environment?

This Earth image is a compilation of data from several different satellites that remotely sense vegetation, clouds, fires over land, and aerosols over the ocean.



# LRO Data Working Group (LDWG)

## PDS Nodes/Subnodes/Data Nodes





Portland

Tiller Complex Fire

Biscuit Fire

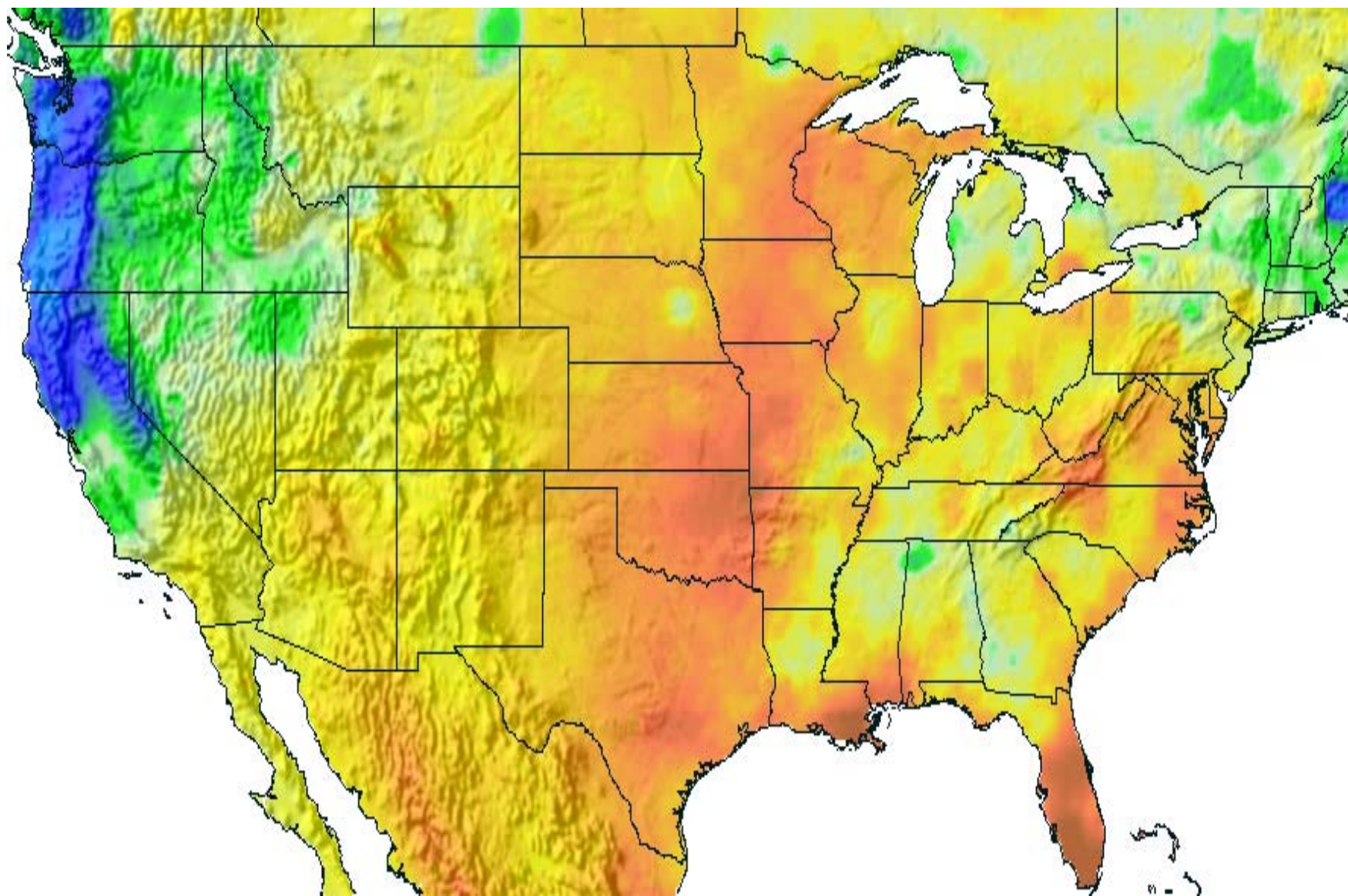
Mt. Shasta

Lake Tahoe

Yosemite

San Francisco

McNelly Fire



# LEAP: Lunar Exploration Analyst/Planner

A GIS Tool for Lunar Exploration Planning

